Project Baseline Summary Report

Data Source: **EM CDB** Report Number: **GEN-01b**

Operations/Field Office: **Idaho** Print Date: **3/10/2000**

Site Summary Level: **Idaho National Engineering and Environmental Laboratory** HQ ID: **0121**

Project **ID-OIM-112-N / Pre-2007 INEEL Surveillance and Maintenance (S&M) - Non Defense**

General Project Information

Project Description Narratives

Purpose, Scope, and Technical Approach:

SUMMARY: The purpose of this non-defense surveillance and maintenance (S&M) PBS is to manage the nuclear reactor, contaminated facilities and nuclear fuel storage pool at the PBF facility, and the fuel storage pool at the MTR facility. This PBS has scope to maintain these nuclear facilities in a safe condition and meet the requirements found in CFR41-101.47.400 which prohibits abandonment of surplus facilities and supports compliance agreements (See SNF PBS ID-SNF-01,-02,-03,-04,-05,-06 for reference to the Court Order and Agreements). This program maintains criticality controls in areas that have significant quantities of high enriched fissile materials by maintenance of instrumentation required to meet Criticality Safety Requirements. Monitoring and maintaining instrumentation required by RCRA regulations is also required in several of the facilities.

PURPOSE: The purpose of surveillance and maintenance (S&M) is to maintain surplus contaminated facilities in a safe condition and meet the requirements found in CFR41-101.47.400 which prohibits abandonment of surplus facilities. Surveillance and maintenance activities include the following: Maintaining these facilities in a condition that meets requirements for reduced risk to the public, site personnel, and the environment from release of radiological and hazardous materials. This is accomplished by maintaining facility and site HEPA filtered off-gas systems, cleaning up and containing contamination 'creep', preventing and cleaning up inflow of environmental liquids, and maintenance of the equipment necessary to accomplish this task. This program also maintains criticality controls in areas that have significant quantities of high enriched fissile materials by preventing inflow of environmental liquids, and maintenance of instrumentation required to meet Criticality Safety Requirements. Monitoring and maintaining instrumentation required by RCRA regulations is also required in several of the facilities.

S&M is initiated immediately following facility shutdown and continues through nuclear fuel removal. At that time the S&M responsibilities for the facilities will come under the purview of the defense Deactivation, PBS-ID-OIM-112.

Justification for surveillance and maintenance of the facilities in this non-defense PBS:
· PBF Reactor Buildings - The PBF canal contains fuel elements from the PBF reactor and sixty-seven thousand gallons of contaminated water. This sub-project is driven by Risk Reduction, Compliance Agreements (See SNF PBS ID-SNF-01,-02,-03,-04,-05,-06 for reference to the Court Order and Agreements), and RCRA monitoring of the basin water filtration and waste tank system.

· MTR Canal - Used reactor fuel is stored in a liquid filled canal storage area containing one-hundred-twenty thousand gallons of contaminated water. This sub-project is driven by Risk Reduction and Compliance Agreements (See SNF PBS ID-SNF-01,-02,-03,-04,-05,-06 for reference to the Court Order and Agreements)

. The Surveillance and maintenance of these facilities is required to meet settlement agreements, environmental laws, and consent order requirements which will be followed and are not negotiable. These facilities contain RCRA units which must be monitored and maintained to meet Federal Laws.

SCOPE: Non-defense Surveillance and Maintenance is performed on the following surplus facilities:

· PBF Reactor Buildings - The PBF canal contains fuel elements from the PBF reactor and sixty-seven thousand gallons of contaminated water.

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· MTR Canal - Used reactor fuel is stored in a liquid filled canal storage area containing one-hundred-twenty thousand gallons of contaminated water.

Perform surveillance and maintenance of the non-defense surplus facilities at the INEL. The scope in this PBS is to manage the nuclear reactor, contaminated facilities and nuclear fuel storage pool at the PBF facility, and the fuel storage pool at the MTR facility. Maintaining these facilities in a condition that meets requirements for reduced risk to the public, site personnel, and the environment from release of radiological and hazardous materials is accomplished by maintaining facility and site HEPA filtered off-gas systems, cleaning up and containing contamination 'creep', preventing and cleaning up inflow of environmental liquids, and maintenance of the equipment necessary to accomplish this task. This program also maintains criticality controls in areas that have significant quantities of highly enriched fissile materials by maintaining fuel storage conditions to meet technical standards for safety and accountability. Surveillance and Maintenance also maintains the instrumentation required to meet Criticality Safety Requirements and monitoring requirements to meet RCRA regulations.

Surveillance and maintenance activities maintain these nuclear facilities in a safe condition awaiting defense deactivation under PBS-ID-OIM-110. There are a number of units within these facilities which are on the INEL Voluntary Consent Order permit which will have to be RCRA monitored thus falling in to the CAT. A driver category. Many of these facilities are expected to have significant quantities of radioactive and mixed waste with radiation fields above 100mR/hr.

TECHNICAL APPROACH: The Technical Approach consists of: (1) Operation of storage pool water filtration and makeup; (2) RCRA monitoring; (3) receipt, sampling, and unloading of bulk chemical tankers, and subsequent chemical transfer; (4) around the clock surveillance of the criticality control systems in facilities at PBF, and MTR; (5) daily surveillance of Resource Conservation and Recovery Act regulated units in PBF and MTR; (6) daily surveillance of transition and restoration facilities for leak detection and response; (7) daily surveillance of the facilities for ventilation control; (8) monthly surveillance of the facilities for operability of safety equipment necessary for routine occupancy; and (9) operational and maintenance response to any abnormalities.

Seeded data in the waste module was not provided by the PBS Manager. The data source is AVS, but validation is not possible because the data is entered by waste stream, not PBS.

Project Status in FY 2006:

This project will be complete at the end of FY2002. The nuclear fuel will have been removed from the following non-defense facilities by the end of FY2002: PBF canal and reactor buildings, ARMF/CFRMF canal and reactor building (FY98), and MTR Fuel Storage Canal.

Post-2006 Project Scope:

None.

Project End State

The non-defense nuclear fuel storage pools associated with the MTR reactor at the TRA Area and the PBF reactor will have been emptied and the fuel transported to dry storage at INTEC. The nuclear fuel removal from the storage pools into dry storage will meet settlement agreements, environmental laws, and consent order requirements. At the end of fuel removal, the Surveillance and Maintenance responsibility in these facilities will be turned

Project Description Narratives

over to PBS-ID-OIM-112.

Cost Baseline Comments:

The Baseline costs represented here do not include contingency for authorized work packages, but may contain contingency for planning packages. This contingency is removed upon development of detailed work packages. Escalation was applied in accordance with IDMS guidelines. The cost estimate is based upon Activity-Based Cost Estimating. There are no costs assigned to the waste generated as the waste transportation and disposal costs at the INEL are covered under a separate PBS, and the assumption is that this will continue through the life of the project.

Safety & Health Hazards:

The necessary S & H functions required to maintain safe and compliant operations for non-defense INEEL S&M Projects now and in the future are in place and operating properly. The primary hazards associated with the S&M of facilities in this PBS vary from site to site, but, may include criticality, Am-241, C-14, Cl-36, Co-60, Cs-137, I-129, Nb-94, Np-237, Pu-239, Pu-240, Ra-226, SR-90, Tc-99, U-233, U-234, U-235, U-236, U-238, Carbon Tetrachloride, methylene chloride, lead, nitric and fluoride acids, and asbestos. During S&M activities there will also be a number of industrial safety and industrial hygeine related hazards to address such as slips, trips, and falls; lifting; working on elevated structures; moving equipment; mechanical equipment, hoisting and rigging, sharp objects, inhalation of dusts; temperature extremes; etc.

Hazard documentation developed includes, but is not limited to, project specific health and safety plans, detailed operating procedures, standard operating procedures, job safety analyses, job hazard analyses, etc. These documents will be developed during the early stages of each project and will determine the methods, procedures, and equipment used during project implementation to reduce hazards to workers and the environment.

Safety & Health Work Performance:

The resources necessary to accomplish the planned work safely and in compliance are identified through the Health and Safety Program requirements as well as the authorization basis discussed previously. Resources allocated at the site to ensure compliance with health and safety requirements, as well as safety on the job include: radcon, safety, industrial hygiene, occupational medical, fire, emergency management, safeguards and security, performance oversight, quality, the Voluntary Protection Program, etc. Safety and health resources are planned and allocated into the appropriate category by cost center through the work breakdown structure and they are loaded into each project for each fiscal year. Institutional support, such as medical facilities and personnel, security, fire protection, etc., are funded out of the financial systems indirect labor adder, and project-specific safety and health professional support (e.g., industrial safety engineer) is identified in specific control account plans where the support is required. The average cost per FTE, burdened, is approximately $60/hour to $65/hour for each of the safety professionals identified above. Presently there are no plans to conduct full DOE operational readiness reviews although all projects will undergo a complete evaluation of their readiness to proceed with field activities. Applicable projects will complete unreviewed safety question determinations. Personnel are trained in Stop Work Authority, emergency preparedness procedures, health and safety plans, work plans, integrated safety management, integrated work control, conduct of operations, and conduct of maintenance, etc. Safety, radcon, health, fire, environmental, and quality personnel conduct routine inspections to ensure personnel and the environment are protected. The frequency of these inspections is dependent on the status of each particular project but generally ranges between daily to every other week. During field work the level of ESH&Q support is identified in the individual approved work packages. There are currently no unfunded or under funded safety, health, environmental, or quality resource requirements associated with this PBS. Upon completion of remedial actions, and the initiation of institutional controls, the level of safety and health resources required will be reduced to a

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minimum.

Resource levels vary from fiscal year to fiscal year depending on the extent of sampling and/or remediation activities being performed.

PBS Comments:

Baseline Validation Narrative:

The INEEL Environmental Management Integration Team performed a compliance and cost estimating review of all activities associated with this PBS. This PBS reflects the comments and recommendations associated with the review. The Remediation Program has, since 1991, promoted use of the bottoms up/ABC approach, in the development of planning estimates for Assessment and Remedial Design and Remedial Action projects. All INEEL Remediation Program cost estimates have been developed using sound technical and planning principles and are accompanied by basis of estimate documentation intended to demonstrate the rationale and specifics behind the estimates. Bottoms Up estimating or Activity Based Costing, wherein the work scope is portrayed down to the task level, is both desired and encouraged.
The basis of estimates include a well defined statement of work, performance measures, products required for completion, products delivered, key support activities, and known milestones, etc., for every level of the program work scope. For work scope with definable milestones and deliverables, the cost estimates are very detailed and more precise. For more subjective work scope, where it is difficult to identify a specific end-product or deliverable, detail is provided to the lowest level possible. In most cases, the clarity of the available scope and associated planning assumptions is a key consideration in determining the specific technique used to develop a particular cost estimate.

General PBS Information

Project Validated? Yes **Date Validated:** 2/13/1996

Has Headquarters reviewed and approved project? No

Date Project was Added:

Baseline Submission Date:

FEDPLAN Project? Yes

Drivers:

CERCLA	RCRA	DNFSB	AEA	UMTRCA	State	DOE Orders	Other
N	Y	N	N	N	Y	Y	Y

Project Identification Information

DOE Project Manager: D.J.Sanow

DOE Project Manager Phone Number: 208-526-1049

DOE Project Manager Fax Number: 208-526-9150

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General PBS Information

DOE Project Manager e-mail address: sanowdj@inel.gov

Is this a High Visibility Project (Y/N):

Planning Section

Baseline Costs (in thousands of dollars)

	1997-2006 Total	2007-2070 Total	1997-2070 Total	1997	Actual 1997	1998	Actual 1998	1999	2000	2001	2002	2003	2004	2005	2006
PBS Baseline (current year dollars)	6,283	0	6,283				1,498	1,321	1,643	1,642	1,677	0	0	0	0
PBS Baseline (constant 1999 dollars)	6,053	0	6,053				1,498	1,321	1,600	1,566	1,566	0	0	0	0
PBS EM Baseline (current year dollars)	6,283	0	6,283				1,498	1,321	1,643	1,642	1,677	0	0	0	0
PBS EM Baseline (constant 1999 dollars)	6,053	0	6,053				1,498	1,321	1,600	1,566	1,566	0	0	0	0

	2007	2008	2009	2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
PBS Baseline (current year dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS Baseline (constant 1999 dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (current year dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (constant 1999 dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Baseline Escalation Rates

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
		0.00%	2.70%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%

2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%

Project Reconciliation

Project Completion Date Changes:

Previously Projected End Date of Project:

Current Projected End Date of Project: 9/30/2006

Explanation of Project Completion Date Difference (if applicable):

Project Cost Estimates (in thousands of dollars)

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars):		**Actual 1997 Cost:**	**Actual 1998 Cost:** 1,498
Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars):	-1,498	**Inflation Adjustment (2.7% to convert 1998 to 1999 dollars):**	-40
Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	-1,538		

Project Cost Changes

	Cost Adjustments	Reconciliation Narratives
Cost Change Due to Scope Deletions (-):		
Cost Reductions Due to Efficiencies (-):		
Cost Associated with New Scope (+):	7,591	New PBS to identify Non Defense work scope
Cost Growth Associated with Scope Previously Reported (+):		
Cost Reductions Due to Science & Technology Efficiencies (-):		

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Project Reconciliation

Subtotal:	6,053
Additional Amount to Reconcile (+):	0
Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	**6,053**

Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Project Start			10/1/1996								
Project Complete			9/30/2006								

Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critial Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
Project Start				Y							
Project Complete					Y						